

# MANHOLE FRAMES & COVERS

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## DRAIN GRATES

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## SEWER INLETS



**Banner Iron Works**  
1920 S. KINGSHIGHWAY . ZONE 10  
**Saint Louis**

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# **Banner Iron Works**

1920 So. Kingshighway Blvd.

**St. Louis**

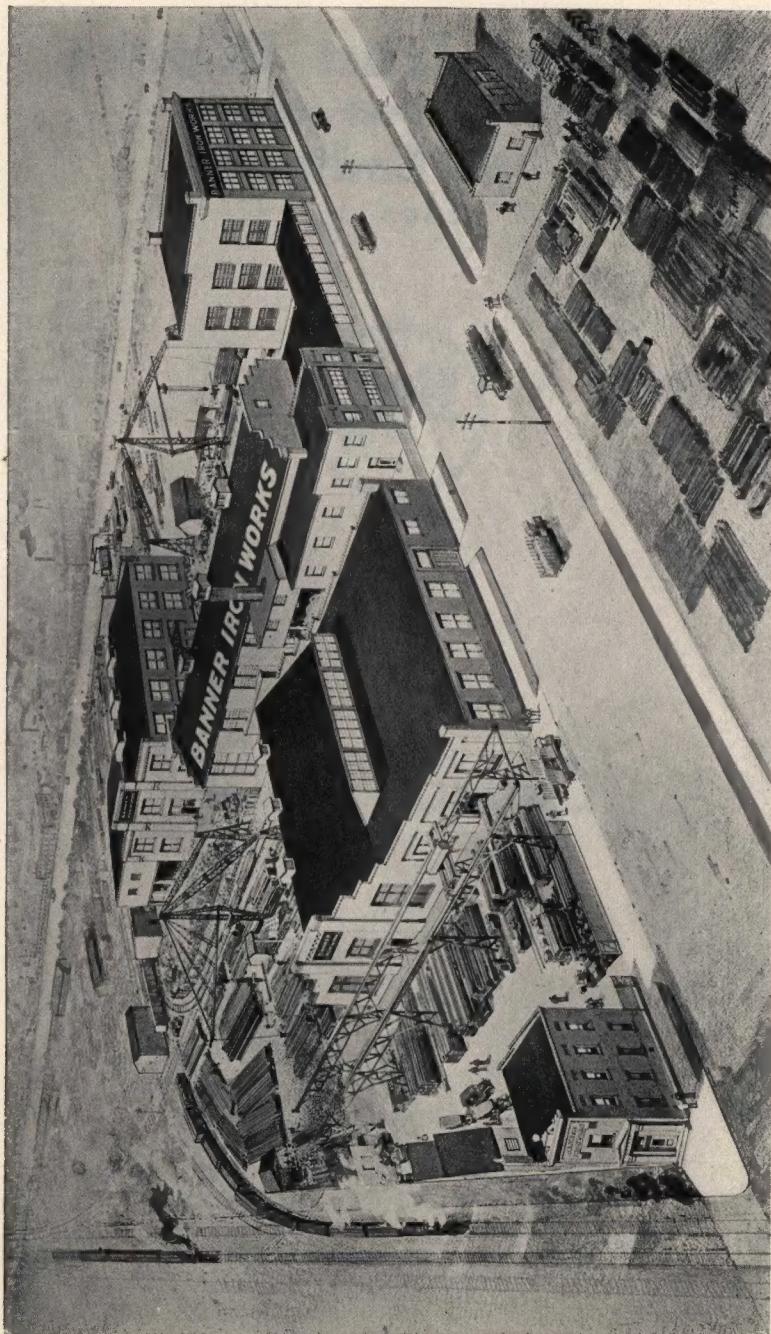
**ZONE 10**



**Catalog No. 4**

BANNER IRON WORKS

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# CATALOG No. 4

## GENERAL INFORMATION

**T**HIS CATALOG has been especially prepared for the use of Engineers and Contractors as a handy reference for selecting stock designs of iron castings for use in connection with storm and foul water sewers, streets, highways, drainage, and other work of a similar nature.

In this revised catalog, a number of new patterns that were not shown in previous issues have been added. All cuts have been made to show the necessary details only. The description of the cuts gives the general dimensions and weights.

The grouping of the various designs has been arranged so that all those of a similar nature follow in sequence. This grouping is as follows:

Round Grates.....	Page 4
Round Grates and Frames.....	Pages 5 to 8 inclusive
Round Solid Covers and Frames.....	Pages 9 to 22 inclusive
Round Inlet Covers.....	Page 23
Manhole Steps.....	Page 24
Rectangular Solid Covers and Frames.....	Pages 25 to 33 inclusive
Rectangular Grates and Frames.....	Pages 34 to 40 inclusive
Rectangular Grates.....	Pages 41 to 43 inclusive
Grate Bars and Boiler Grates.....	Page 44

We usually carry in stock a sufficient quantity of most patterns to meet ordinary demands. Our facilities enable us to make prompt delivery of quantity orders.

All castings are made of a high quality Gray Iron and have a tensile strength of about 25,000 p.s.i. Higher tensile strengths can be furnished if required.

We are prepared to furnish any special castings not shown. Let us quote you on your requirements.

ADDRESS ALL COMMUNICATIONS TO

## Banner Iron Works

1920 South Kingshighway Boulevard

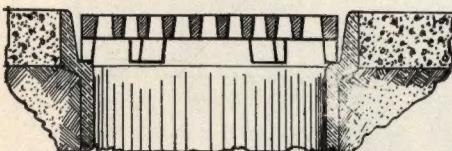
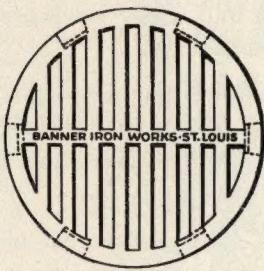
SAINT LOUIS 10, MISSOURI

BANNER IRON WORKS

ROUND GRATES

To Fit in Bell Ends of Standard Clay Pipe

No. 4710



Sectional View Showing Bell End of Sewer Pipe  
in Concrete Floor with Grate in Place

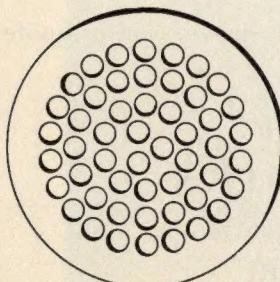
Diameter of Pipe (Inches)	Diameter of Grate (Inches)	Weight of Grate (Pounds)
4	5 1/8	2
6	7 1/2	4
8	9 3/4	8
10	11 5/8	15
12	14	18
15	18 3/8	51
18	21 3/8	62
20	23 1/4	92
21	25 1/2	95
24	28	137
30	34 1/2	275
36	42 1/2	385

Grates for 12" pipe and under do not have center rib.

Extra Heavy grate with center rib can be furnished for 12" pipe.

ROUND DRAIN PLATES

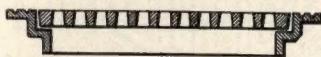
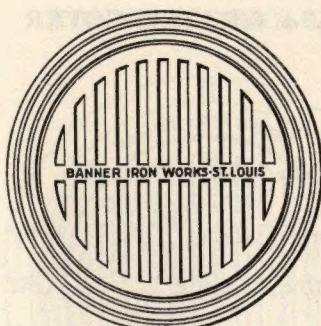
To Fit in Bell Ends of Standard Clay Pipe



No. 4711

Diameter of Pipe (Inches)	Diameter of Grate (Inches)	Weight of Grate (Pounds)
4	5 1/8	1 1/4
6	7 1/2	2 3/4
8	9 3/4	8 1/4

BANNER IRON WORKS



ROUND FRAMES WITH  
GRATED COVERS

10" to 32½" Diameter

No. 4570

By using an iron frame for grate to set in, as shown here, the breaking or cracking of granitoid or clay pipe will be greatly reduced.

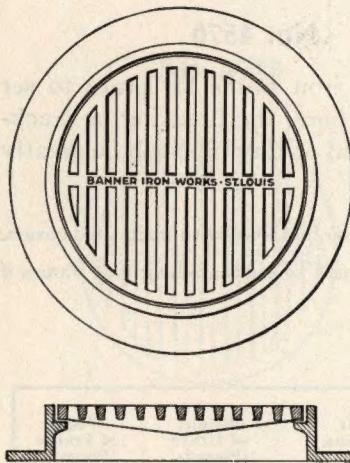
Frames can also be furnished with plain solid covers.

NOTE: Grates may be purchased without frames if desired.

Diameter of Grate (Inches)	Outside Diameter of Frame (Inches)	Depth of Frame (Inches)	Clear Opening (Inches)	Weight of Grate (Pounds)	Weight of Frame (Pounds)
10	14	2½	8 $\frac{5}{8}$	12	21
12	16	2½	10 $\frac{1}{2}$	15	26
15	19	2 $\frac{3}{4}$	13 $\frac{1}{2}$	30	34
16	20	3	14 $\frac{1}{4}$	37	37
18	22	3	15 $\frac{1}{4}$	50	48
20	24	4	18 $\frac{1}{8}$	53	68
22	26	4	20 $\frac{1}{4}$	80	71
24	28	4	22	100	78
26	30	4	24 $\frac{1}{4}$	107	95
32½	37	4	30	180	115

**ROUND MANHOLE FRAME WITH  $21\frac{1}{2}$ "  $\Phi$  GRATED COVER**

**Light Duty Grate**

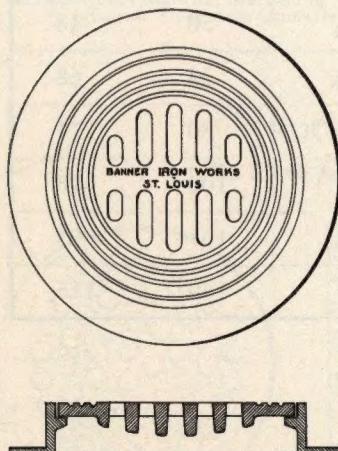


**No. 4791**

Diameter of Grate.....	$21\frac{1}{2}$ "
Diameter of Frame, outside.....	$30"$
Height of Frame.....	$5"$
Diameter of Clear Opening.....	$19\frac{1}{2}$ "
Depth of Rabbet.....	$1\frac{1}{4}$ "
Weight of Grate.....	75 lbs.
Weight of Frame.....	103 lbs.

**ROUND MANHOLE FRAME WITH  $21\frac{3}{4}$ "  $\Phi$  GRATED COVER**

**Heavy Duty Grate**



**No. 4792**

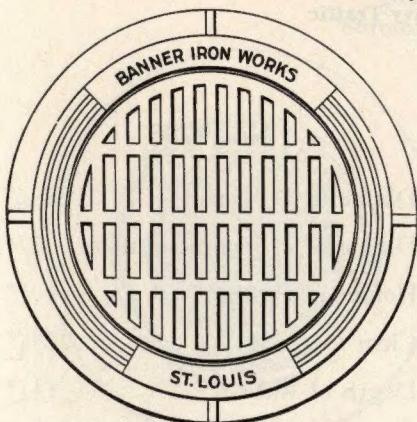
Diameter of Grate.....	$21\frac{3}{4}$ "
Diameter of Frame, outside.....	$30"$
Height of Frame.....	$5"$
Diameter of Clear Opening.....	$19\frac{1}{2}$ "
Depth of Rabbet.....	$1\frac{1}{4}$ "
Weight of Grate.....	136 lbs.
Weight of Frame.....	103 lbs.

4903—Grate  
4791—Frame

BANNER IRON WORKS

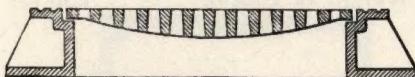
ROUND MANHOLE FRAME WITH 26"φ GRATED COVER

Heavy Duty Grate



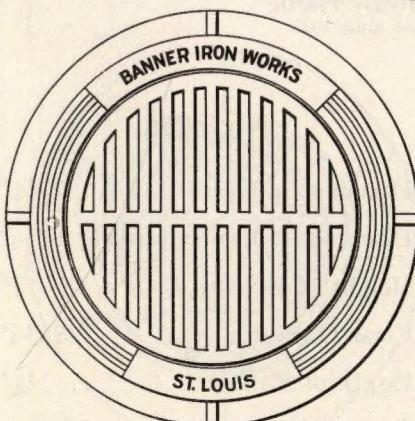
No. 4170

Diameter of Grate.....	26"
Diameter of Frame, outside	$36\frac{1}{2}$ "
Height of Frame.....	6"
Diameter of Clear Opening....	24"
Depth of Rabbet.....	$1\frac{1}{4}$ "
Weight of Frame.....	250 lbs.
Weight of Grate.....	160 lbs.



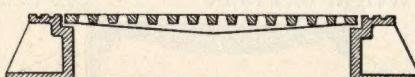
ROUND MANHOLE FRAME WITH 26"φ GRATED COVER

Light Duty Grate

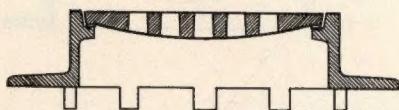
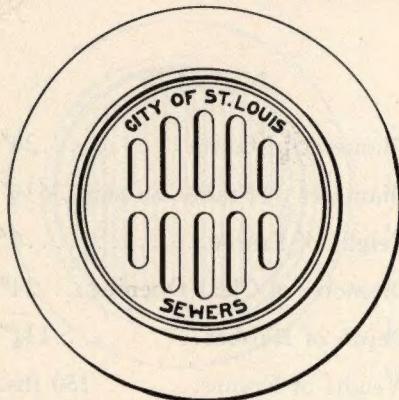


No. 4171

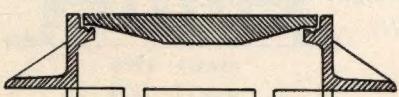
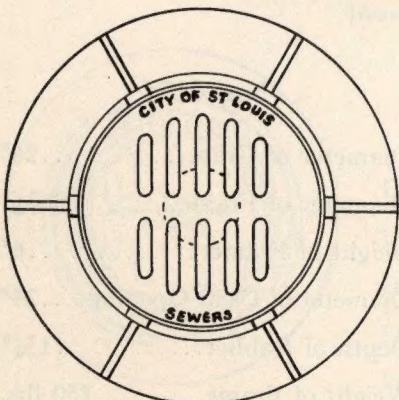
Diameter of Grate.....	26"
Diameter of Frame.....	$36\frac{1}{2}$ "
Height of Frame.....	6"
Diameter of Clear Opening....	24"
Depth of Rabbet.....	$1\frac{1}{4}$ "
Weight of Frame.....	250 lbs.
Weight of Grate.....	105 lbs.



**ROUND MANHOLE FRAME WITH  
GRATED COVER**  
Suitable for Heavy Traffic



**CITY OF ST. LOUIS ROUND MANHOLE  
FRAME WITH GRATED COVER**  
Suitable for Extra Heavy Traffic



**No. 4795**

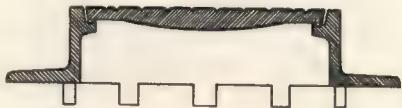
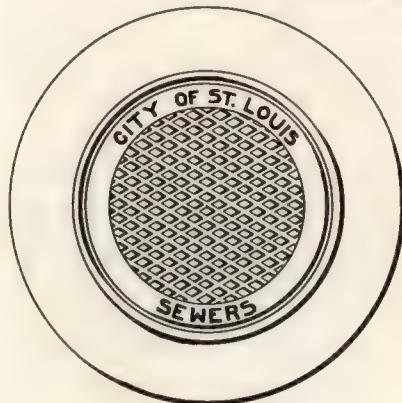
Diameter of Grate.....	23 $\frac{5}{8}$ "
Diameter of Frame, outside.....	37"
Height of Frame.....	7"
Clear Opening.....	22 $\frac{3}{4}$ "
Depth of Rabbet.....	1 $\frac{1}{4}$ "
Weight of Grate.....	147 lbs.
Weight of Frame.....	230 lbs.

**No. 4798**

Diameter of Grate.....	23 $\frac{1}{4}$ "
Diameter of Frame, outside.....	37 $\frac{1}{2}$ "
Height of Frame.....	7"
Clear Opening.....	21 $\frac{3}{8}$ "
Depth of Rabbet.....	1 $\frac{1}{4}$ "
Weight of Grate.....	153 lbs.
Weight of Frame.....	240 lbs.

**ROUND MANHOLE FRAME WITH  
SOLID COVER**

Suitable for Heavy Traffic

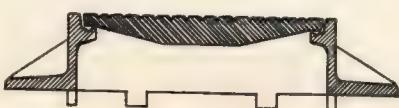
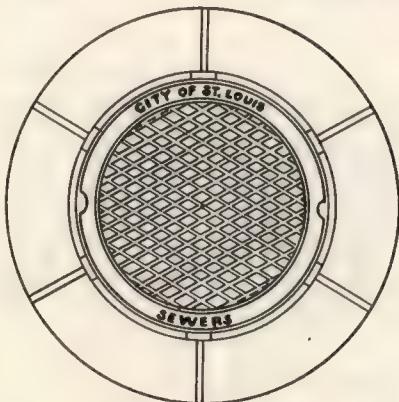


**No. 4796**

Diameter of Cover .....	$23\frac{5}{8}$ "
Diameter of Frame, outside .....	$37\frac{1}{2}$ "
Height of Frame .....	7"
Clear Opening .....	$22\frac{3}{4}$ "
Depth of Rabbet .....	$1\frac{1}{4}$ "
Weight of Cover .....	165 lbs.
Weight of Frame .....	230 lbs.

**CITY OF ST. LOUIS ROUND MANHOLE  
FRAME WITH SOLID COVER**

Suitable for Extra Heavy Traffic



**No. 4799**

Diameter of Cover .....	$23\frac{1}{4}$ "
Diameter of Frame, outside .....	$37\frac{1}{2}$ "
Height of Frame .....	7"
Clear Opening .....	$21\frac{3}{8}$ "
Depth of Rabbet .....	$1\frac{1}{4}$ "
Weight of Cover .....	195 lbs.
Weight of Frame .....	240 lbs.

## LOCK-LID

Lock-Lid is a unique locking device for securing the covers of manhole caps to frames to eliminate rattling, reduce wear between covers and frames, and to hinder children or unauthorized persons from opening manholes.

This locking device can be adapted to most of the larger size manhole frames and covers shown in this catalog, either round or square, solid or grated covers, by a simple addition to the pattern before making the mold.

All parts are made of Gray Iron and of sturdy construction, not readily affected by corrosion, and are designed to give service comparable to the life of the cover.

Locking device consists of brackets cast integral with the cover, chamfered square removable bolts having octagon heads, and a round cammed wedge washer having a part of one side slabbed off.

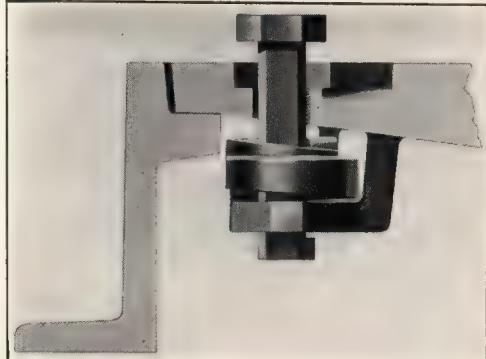
The method of operation is as follows: Before placing cover in frame, the lock bolts are turned to the left as far as possible. This sets wedge washers in a position to clear frame. Cover is then placed in frame in the regular way. Lock bolts are then raised so that octagon heads clear top of cover, and are then revolved to the right until tight. This operation raises the wedge washer and clamps the cover down to the frame. The lock bolts are then dropped into the octagon recesses in the cover. This secures tight position of wedge washers in service. Operations are reversed when removing the cover.

Covers can be secured and again removed without detaching any of the locking arrangement.

Details of Locking arrangement are shown on opposite page.

## LOCK-LID

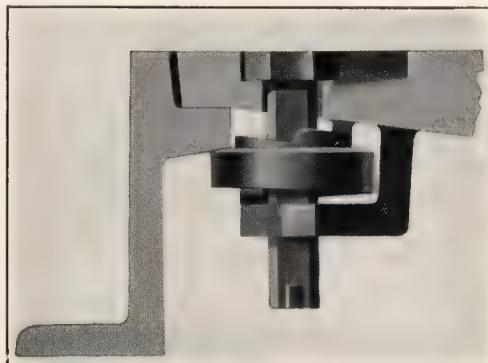
The cuts shown on this page show the details of the locking arrangement of Lock-Lids described on opposite page as adapted to Manhole Frames and Covers No. 4796 shown on page 9. Can also be adapted to other types as explained on opposite page.



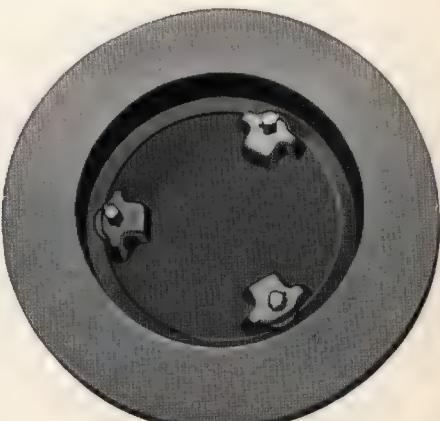
Section Thru a Frame and Cover  
Showing Lock in Open Position



Top View of Manhole-Cap  
Showing Location of Locks

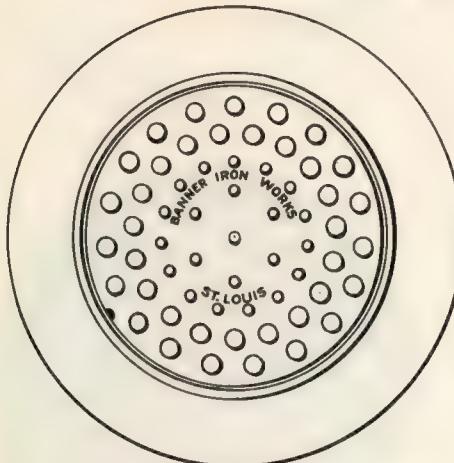


Section Thru a Frame and Cover  
Showing Cover Locked to Frame



Bottom View of Manhole-Cap  
Showing Cover Locks Gripping Frame

ROUND SUBURBAN STANDARD MANHOLE  
FRAME WITH SOLID COVER



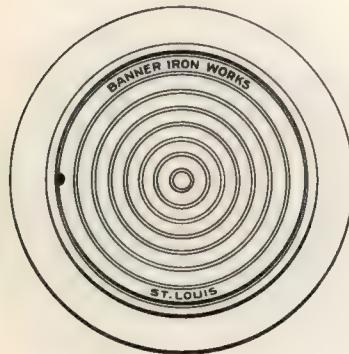
No. 4730

Diameter of Cover.....	$23\frac{3}{4}''$
Diameter of Frame, outside...	$36''$
Height of Frame.....	$9''$
Clear Opening.....	$21''$
Depth of Rabbet.....	$1''$
Weight of Cover.....	85 lbs.
Weight of Frame.....	255 lbs.



ROUND MANHOLE FRAME WITH SOLID COVER

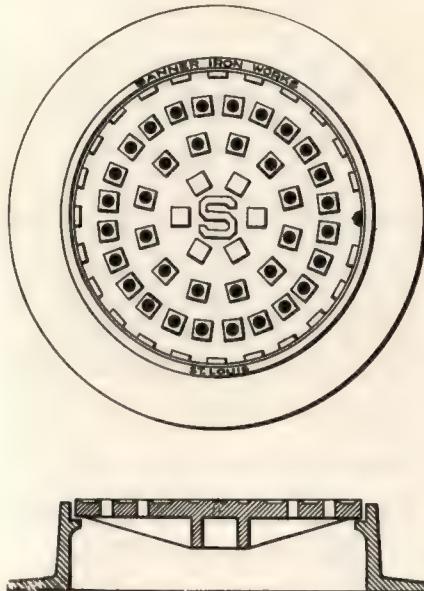
Park Type



No. 4790

Diameter of Cover.....	$21\frac{1}{2}''$
Diameter of Frame, outside...	$30''$
Height of Frame.....	$5''$
Clear Opening.....	$19\frac{1}{2}''$
Depth of Rabbet.....	$1\frac{1}{4}''$
Weight of Cover.....	97 lbs.
Weight of Frame.....	103 lbs.



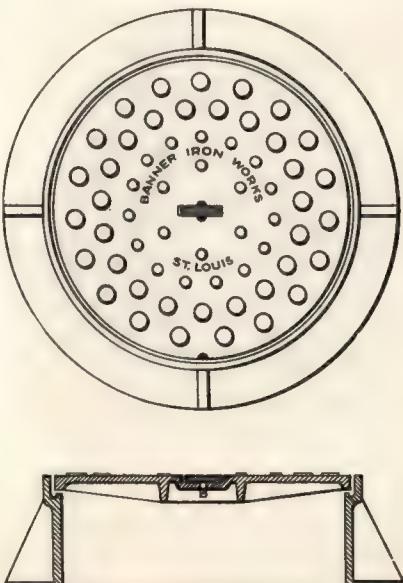


**CITY OF EAST ST. LOUIS, ILL.,  
STANDARD MANHOLE FRAME  
WITH VENTILATED COVER**

**No. 4183**

**Solid Covers Can Also Be Furnished**

Diameter of Cover.....	24"
Diameter of Frame, outside.....	34"
Height of Frame.....	7"
Clear Opening.....	20 $\frac{3}{4}$ "
Depth of Rabbet.....	1 $\frac{1}{4}$ "
Weight of Cover.....	150 lbs.
Weight of Frame.....	214 lbs.



**ROUND MANHOLE FRAME  
WITH SOLID COVER**

**Groove In Frame For Packing  
Flush Lift Handle On Cover**

**No. 4731**

Diameter of Cover.....	24 $\frac{1}{4}$ "
Diameter of Frame, outside.....	31 $\frac{1}{2}$ "
Height of Frame.....	9 $\frac{1}{2}$ "
Clear Opening.....	22"
Depth of Rabbet.....	1 $\frac{1}{4}$ "
Weight of Cover.....	105 lbs.
Weight of Frame.....	177 lbs.

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**ROUND MANHOLE FRAME  
WITH SOLID COVER**

**No. 4740**

Diameter of Cover.....	26"
Diameter of Frame, outside.	$36\frac{1}{2}$ "
Height of Frame.....	6"
Diameter of Clear Opening....	24"
Depth of Rabbet.....	$1\frac{1}{4}$ "
Weight of Frame.....	250 lbs.
Weight of Cover.....	120 lbs.



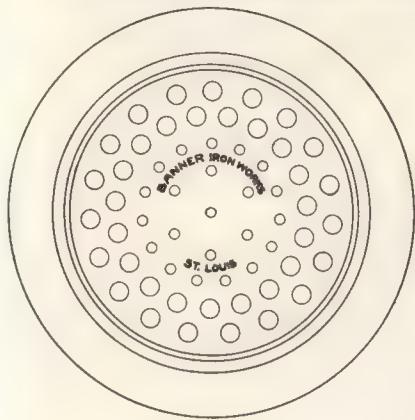
**ROUND MANHOLE FRAME  
WITH SOLID OUTER AND  
INNER COVERS**

**No. 4800**

Diameter of Outer Cover.....	26"
Diameter of Frame, outside.	$36\frac{1}{2}$ "
Diameter of Clear Opening..	$20\frac{1}{2}$ "
Height of Frame.....	8"
Depth of Rabbet.....	$1\frac{1}{4}$ "
Weight of Frame.....	355 lbs.
Weight of Outer Cover...	120 lbs.
Weight of Inner Cover....	45 lbs.



ROUND MANHOLE FRAME WITH SOLID COVER



No. 4732

Diameter of Cover.....	$23\frac{3}{4}''$
Diameter of Frame, outside.....	$34''$
Height of Frame.....	$7''$
Clear Opening.....	$20\frac{3}{4}''$
Depth of Rabbet.....	$1\frac{1}{4}''$
Weight of Cover.....	85 lbs.
Weight of Frame.....	214 lbs.

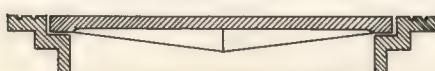


ROUND MANHOLE FRAME WITH  $26'' \phi$  SOLID COVER



No. 4733

Diameter of Cover.....	$26''$
Diameter of Frame, outside.....	$30''$
Depth of Frame.....	$4''$
Clear Opening.....	$24\frac{1}{4}''$
Depth of Rabbet.....	$1\frac{1}{4}''$
Weight of Cover.....	120 lbs.
Weight of Frame.....	95 lbs.



BANNER IRON WORKS

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CITY OF EAST ST. LOUIS, ILL.,  
STANDARD CATCH BASIN  
RING AND COVER

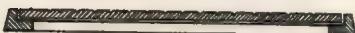
For Concrete Caps

No. 4901

Diameter of Cover.....	20 $\frac{3}{4}$ "
Thickness of Cover.....	$\frac{3}{4}$ "
Diameter of Ring, outside.....	22 $\frac{3}{4}$ "
Height of Ring.....	1 $\frac{1}{4}$ "
Diameter of Clear Opening.....	18 $\frac{1}{2}$ "
Weight of Cover.....	65 lbs.
Weight of Ring.....	24 lbs.

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ROUND CATCH BASIN RING AND 24"  $\phi$  COVER



No. 4902

Diameter of Cover.....	24"
Thickness of Cover.....	$\frac{3}{4}$ "
Diameter of Ring, outside.....	26 $\frac{1}{4}$ "
Height of Ring.....	1 $\frac{1}{2}$ "
Diameter of Clear Opening.....	22 $\frac{1}{4}$ "
Weight of Cover.....	85 lbs.
Weight of Ring.....	39 lbs.

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ROUND FILL CAP FRAME AND COVER

No. 4903

Diameter of Cover.....	10"
Diameter of Frame, outside.....	14"
Depth of Frame.....	2 $\frac{1}{2}$ "
Clear Opening.....	8 $\frac{3}{4}$ "
Depth of Rabbet.....	1 $\frac{1}{4}$ "
Weight of Cover.....	25 lbs.
Weight of Frame.....	21 lbs.



Excellent to Cover Fill Caps in Driveways of Filling Stations

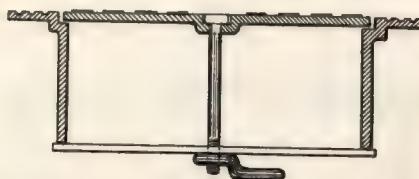
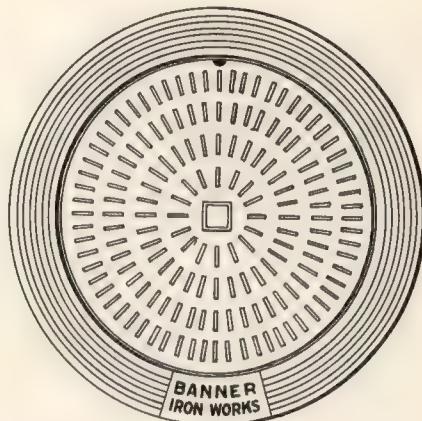
## BANNER IRON WORKS

### COAL RINGS WITH SOLID COVERS

#### Locking Arrangement Underneath

These Coal Rings and Covers are made of heavy Metal Sections and will give many years of service when used under ordinary conditions

No. 4140



TYPE E & F COVERS ARE RIBBED UNDERNEATH

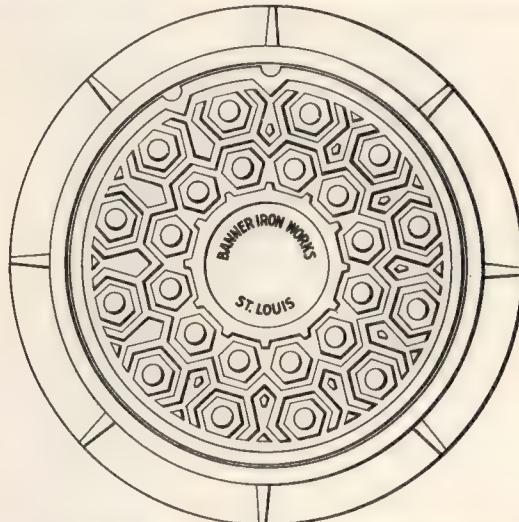
Type	Diameter of Cover (Inches)	Diameter of Ring Outside (Inches)	Diameter of Opening (Inches)	Depth of Ring (Inches)	Depth of Rabbet (Inches)	Weight of Cover (Pounds)	Weight of Ring (Pounds)
A	19 1/4	25 1/2	17 1/2	4 3/4	5/8	50	75
B	19 1/4	25 1/2	17 1/2	8	5/8	50	95
C	25	31 1/2	24	4	5/8	95	80
D	25	31 1/2	24	8	5/8	95	118
E	31 1/4	37 1/2	30	7	5/8	160	175
F	35 3/4	40	35	6	5/8	280	200

Can be furnished without locking device

**ROUND MANHOLE FRAMES WITH SOLID COVERS**

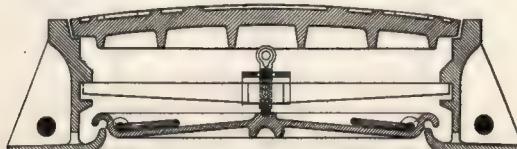
**No. 4761—Frame With Outer and Inner Covers**  
**Inner Cover Has Locking Device**

**No. 4762—Frame With Outer Cover Only**  
**Outer Covers Can Be Furnished With Ventilating Holes When Desired**



Plan showing outer cover and frame of No. 4761 and 4762

Type "A"



**SECTION THRU No. 4761**

A  $\frac{3}{4}$ " diameter rubber gasket can be placed between the inner cover and the frame

Type "B"



**SECTION THRU No. 4762**

See Page 19 for Dimensions and Weights of above

BANNER IRON WORKS

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DIMENSIONS AND WEIGHTS

No. 4761

	TYPE "A"	
	27"	30"
Diameter of Outer Cover, Inches.....	33½	36½
Diameter of Frame, outside, inches.....	43½	46½
Diameter of Clear Opening, inches.....	27	30
Height of Frame, inches.....	11	11
Weight of Frame, pounds.....	565	585
Weight of Outer Cover, pounds.....	390	455
Weight of Inner Cover, pounds.....	123	163
Weight of Locking Device, pounds.....	23	25



DIMENSIONS AND WEIGHTS

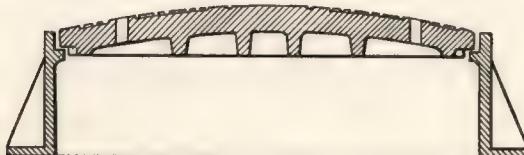
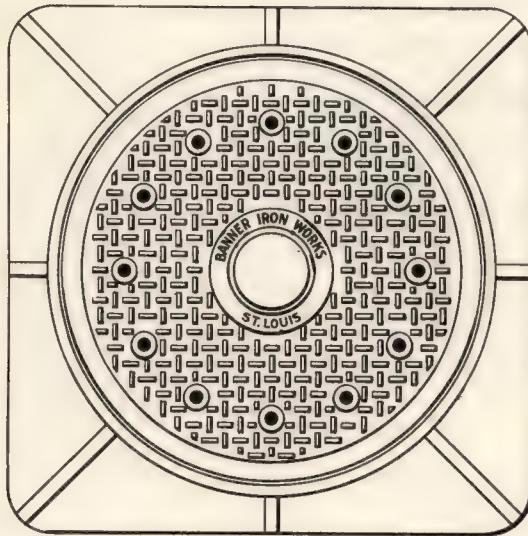
No. 4762

	TYPE "B"		
	24"	27"	30"
Diameter of Cover, inches.....	25¾	28¾	31¾
Diameter of Frame, outside, inches.....	43	46	49
Diameter of Clear Opening, inches.....	24	27	30
Height of Frame, inches.....	10	10	10
Weight of Frame, pounds.....	360	365	411
Weight of Cover, pounds.....	190	285	339

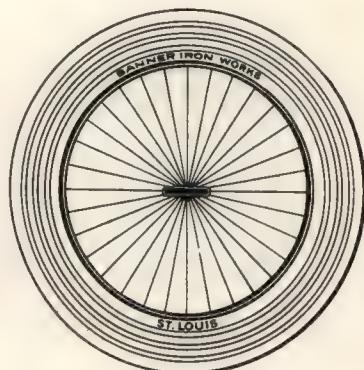
**SQUARE MANHOLE FRAME WITH ROUND  
VENTILATED COVER  
SUITABLE FOR EXTRA HEAVY TRAFFIC**

**No. 4760**

**Solid Cover Can Also Be Furnished**



Diameter of Cover .....	34 $\frac{1}{4}$ "
Size of Frame, outside .....	42 $\frac{1}{2}$ " x 42 $\frac{1}{2}$ "
Height of Frame .....	10"
Diameter of Clear Opening .....	31 $\frac{5}{8}$ "
Depth of Rabbet .....	1 $\frac{1}{2}$ "
Weight of Cover .....	400 lbs.
Weight of Frame .....	540 lbs.



**CISTERN RINGS WITH  
SOLID COVERS**

Flush Lift Handle On Cover

**No. 4150**

Note—Turning of handle secures cover to frame.

Diameter of Cover,	18	21
inches.....		
Diameter of Frame,	27	30
outside, inches.....		
Depth of Frame, inches..	3	3
Diameter of Clear		
Opening, inches.....	17 $\frac{1}{4}$	19 $\frac{3}{4}$
Weight of Cover, pounds.	19	35
Weight of Frame, pounds	37	46

**ROUND LAMPHOLE FRAME WITH  
VENTILATED COVER**

**No. 4890**

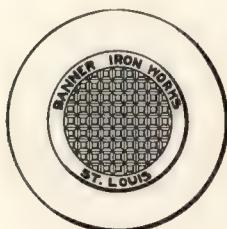
Solid Cover Can Also Be Furnished

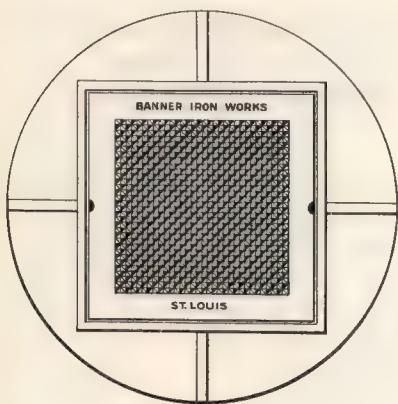
Diameter of Cover.....	15 $\frac{1}{4}$ "
Diameter of Frame, outside.....	23"
Height of Frame.....	8"
Diameter of Clear Opening.....	14 $\frac{7}{8}$ "
Weight of Cover.....	35 lbs.
Weight of Frame.....	85 lbs.

**ROUND LAMPHOLE FRAME WITH  
SOLID COVER**

**No. 4891**

Diameter of Cover.....	9"
Diameter of Frame, outside.....	14 $\frac{1}{4}$ "
Height of Frame.....	7"
Diameter of Clear Opening.....	8"
Weight of Cover.....	25 lbs.
Weight of Frame.....	45 lbs.

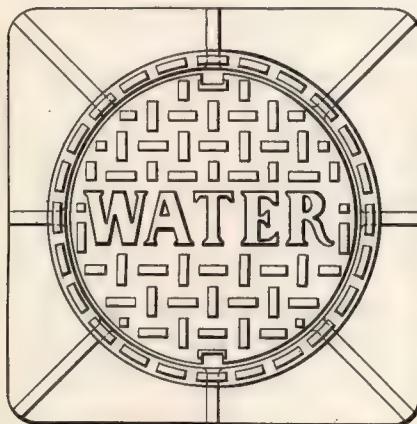




**ROUND FRAME WITH  
SQUARE SOLID COVER**

**No. 4840**

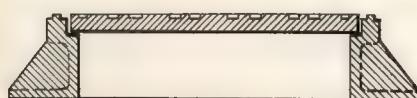
Size of Cover..... 22" x 22"  
Diameter of Frame, outside... 38"  
Size of Clear Opening. 20½" x 20½"  
Depth of Rabbet..... 2¼"  
Thickness of Cover..... ¾"  
Height of Frame..... 6"  
Weight of Cover..... 128 lbs.  
Weight of Frame..... 208 lbs.



**CITY OF ST. LOUIS  
STANDARD STOP VALVE  
FRAME WITH SOLID COVER**

**No. 4882**

Diameter of Cover..... 21¾"  
Size of Frame, outside 30½" x 30½"  
Depth of Frame..... 6¼"  
Diameter of Clear Opening.... 20"  
Depth of Rabbet..... 1¼"  
Weight of Cover..... 101 lbs.  
Weight of Frame..... 263 lbs.



**Bearing Surfaces of Frame and Cover are Machined Finish**

BANNER IRON WORKS



CITY OF ST. LOUIS STANDARD  
INLET COVER

For Stone or Concrete Caps

No. 4900

Diameter of Cover..... 24"

Thickness of Cover.....  $\frac{3}{4}$ "

Weight, each..... 85 lbs.

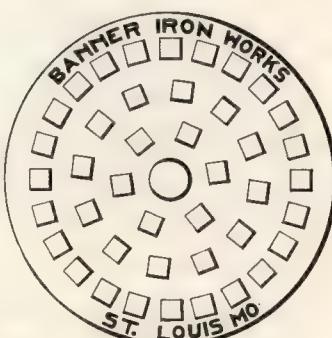


ROUND INLET COVERS

For Stone or Concrete Caps

No. 4904

Diameter of Cover (Inches)	Thickness of Cover (Inches)	Weight of Cover (Pounds)
19	$1\frac{3}{4}$	123
20	1	82



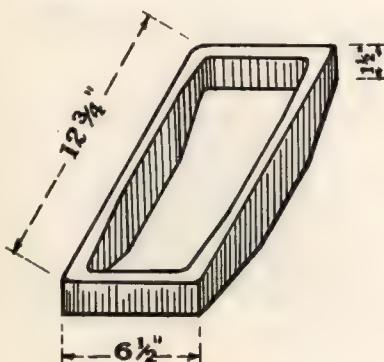
ROUND INLET COVER

No. 4905

Diameter of Cover.....  $22\frac{3}{4}$ "

Thickness of Cover.....  $1\frac{1}{4}$ "

Weight, each..... 146 lbs.

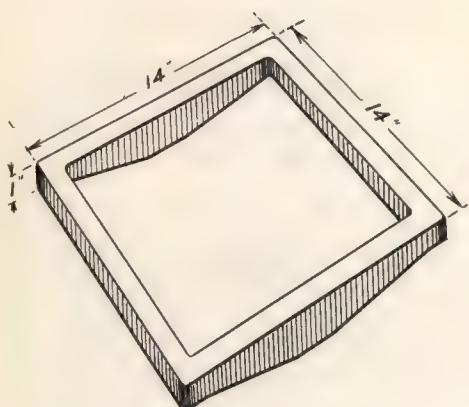


**CITY OF ST. LOUIS  
STANDARD CAST IRON  
MANHOLE STEP**

**No. 4922**

Metal  $\frac{5}{8}$ " to  $\frac{3}{4}$ " Thick

Weight, each ..... 11 lbs.

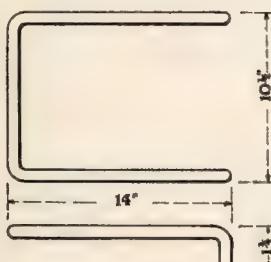


**CITY OF ST. LOUIS  
STANDARD CAST IRON  
TUNNEL SHAFT STEP**

**No. 4923**

Metal 1" Thick

Weight, each ..... 17 lbs.



**STEEL MANHOLE STEP**

**No. 4920**

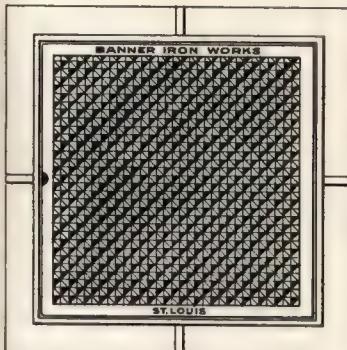
Made of  $\frac{3}{4}$ " Round Iron

Weight, each ..... 5 lbs.

BANNER IRON WORKS

**SQUARE MANHOLE FRAME WITH  
24"x24" SOLID COVER**

**Groove in Frame for Packing**

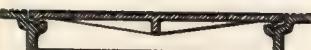


**No. 4780**

Size of Cover.....	24"x24"
Size of Frame, outside.....	30"x30"
Height of Frame.....	4"
Size of Clear Opening.....	20 $\frac{3}{4}$ "x20 $\frac{3}{4}$ "
Weight of Cover.....	125 lbs.
Weight of Frame.....	125 lbs.

**SQUARE MANHOLE FRAME WITH  
20"x20" SOLID COVER**

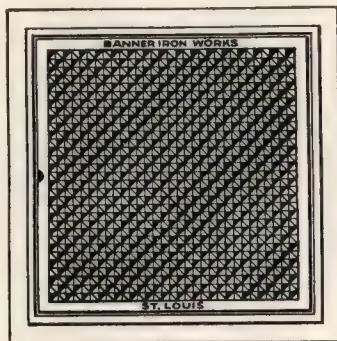
**Groove in Frame for Packing**



**No. 4781**

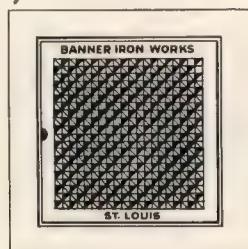
Size of Cover.....	20"x20"
Size of Frame, outside.....	24"x24"
Height of Frame.....	3"
Size of Clear Opening.....	17 $\frac{1}{2}$ "x17 $\frac{1}{2}$ "
Weight of Cover.....	50 lbs.
Weight of Frame.....	66 lbs.

SQUARE METER FRAMES WITH  
SOLID COVERS



No. 4610

	Style A	Style B
Size of Cover . . .	24" x 24"	30" x 30"
Size of Frame, outside . . . . .	29" x 29"	36" x 36"
Height of Frame	2 1/2"	3"
Size of Clear Opening . . . . .	22 1/2" x 22 1/2"	28 1/2" x 28 1/2"
Depth of Rabbet	3/4"	3/4"
Weight of Cover	87 lbs.	135 lbs.
Weight of Frame	82 lbs.	114 lbs.



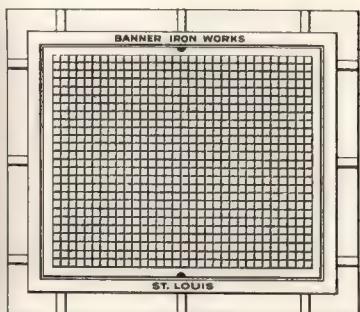
SQUARE CLEANOUT FRAMES  
WITH SOLID COVERS



No. 4620

Style	Size of Cover (Inches)	Size of Frame Outside (Inches)	Height of Frame (Inches)	Size of Clear Opening (Inches)	Depth of Rabbet (Inches)	Weight of Cover (Pounds)	Weight of Frame (Pounds)
A	13x13	17x17	2 1/2	12x12	5/8	20	29
B	16x16	20x20	2 1/2	15x15	5/8	32	48
C	19x19	23x23	2 1/2	18x18	5/8	45	48
D	37 1/4 x 37 1/4	40 1/2 x 40 1/2	2 1/2	36x36	5/8	192	101

## BANNER IRON WORKS

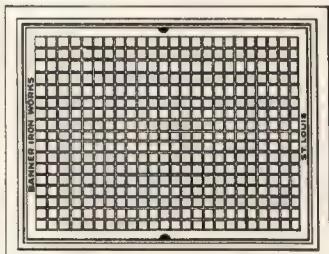


### RECTANGULAR MANHOLE FRAMES WITH SOLID COVERS

No. 4770



Style	Size of Cover (Inches)	Size of Frame Outside (Inches)	Height of Frame (Inches)	Size of Clear Opening (Inches)	Depth of Rabbet (Inches)	Weight of Cover (Pounds)	Weight of Frame (Pounds)
A	18x18	22x22	4	16x16	1	70	112
B	24x24	30x30	4	22x22	1	141	138
C	30x24	36x30	4	28x22	1	175	152
D	30x30	36x36	4	28x28	1	208	173



### RECTANGULAR MANHOLE FRAMES WITH SOLID COVERS

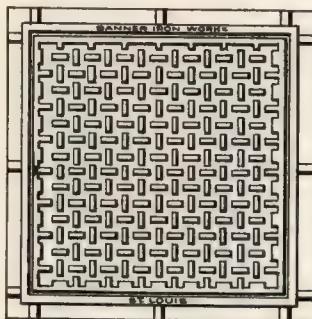
No. 4771

Note—\*For Style "E", covers are made in two sections.



Style	Size of Cover (Inches)	Size of Frame Outside (Inches)	Height of Frame (Inches)	Size of Clear Opening (Inches)	Depth of Rabbet (Inches)	Weight of Cover (Pounds)	Weight of Frame (Pounds)
A	18x18	21x21	2½	15¾x15¾	1	72	50
B	24x18	27x21	2½	22x16	1	100	66
C	30x24	33x27	2½	28x22	1	140	75
D	36x12	39x15	2½	34x10	1	110	61
E*	72x30	75x33	2½	70x28	1	270	148

**SQUARE MANHOLE FRAME WITH  
SOLID COVER**

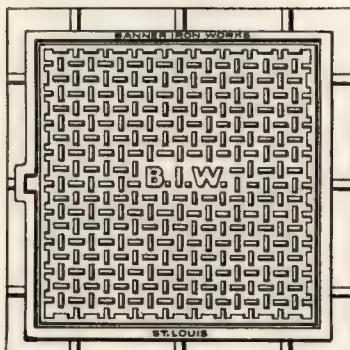


**No. 4600**

Size of Cover.....	24" x 24"
Size of Frame, outside.....	29" x 29"
Height of Frame.....	8"
Size of Clear Opening.....	21 3/4" x 21 3/4"
Depth of Rabbet.....	1 1/8"
Weight of Cover.....	175 lbs.
Weight of Frame.....	260 lbs.



**SQUARE MANHOLE FRAME WITH  
SOLID COVER**



**No. 4750**

Size of Cover.....	28 1/2" x 28 1/2"
Size of Frame, outside.....	36" x 36"
Height of Frame.....	9"
Size of Clear Opening.....	26" x 26"
Depth of Rabbet.....	1 1/2"
Weight of Cover.....	244 lbs.
Weight of Frame.....	451 lbs.



## BANNER IRON WORKS



### SQUARE MANHOLE FRAME WITH SOLID COVER

No. 4883

Size of Cover..... 38" x 38"  
Size of Frame, outside 44 1/4" x 44 1/4"  
Depth of Frame..... 4"  
Size of Clear Opening. 36 1/2" x 36 1/2"  
Depth of Rabbet..... 1"  
Weight of Cover..... 395 lbs.  
Weight of Frame..... 228 lbs.



### SQUARE MANHOLE FRAMES WITH SOLID INNER AND OUTER COVERS

No. 4801

	Style A	Style B
Size of Outer Cover.....	22 1/2" x 22 1/2"	22 1/2" x 22 1/2"
Size of Inner Cover.....		19 1/2" x 19 1/2"
Size of Frame, outside.....	31" x 31"	31" x 31"
Height of Frame.....	4 1/2"	10 1/2"
Size of Clear Opening....	18" x 18"	18" x 18"
Depth of Rabbet....	1 5/8"	1 5/8"
Weight of Outer Cover...	140 lbs.	140 lbs.
Weight of Inner Cover..		70 lbs.
Weight of Frame.....	235 lbs.	430 lbs.

Note—Style "A" not arranged for inner cover.



**RECTANGULAR FRAME WITH  
14"x20" SOLID COVER**

**No. 4721**

Size of Cover.....	14"x20"
Size of Frame, outside.....	18"x24"
Height of Frame.....	2 $\frac{3}{4}$ "
Clear Opening.....	12 $\frac{1}{2}$ "x18 $\frac{1}{2}$ "
Weight of Cover.....	42 lbs.
Weight of Frame.....	62 lbs.

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**SQUARE HANHOLE FRAME WITH  
13"x13" SOLID COVER  
Flush Lift Handle**

**No. 4880**

Size of Cover.....	13"x13"
Size of Frame, outside.....	14 $\frac{3}{4}$ "x14 $\frac{3}{4}$ "
Depth of Frame.....	2"
Size of Clear Opening.....	9 $\frac{1}{2}$ "x9 $\frac{1}{2}$ "
Weight of Cover.....	15 lbs.
Weight of Frame.....	15 lbs.

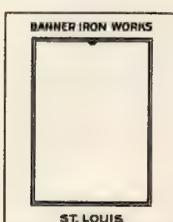


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**RECTANGULAR HANHOLE FRAME  
WITH 7"x9" SOLID COVER**

**No. 4881**

Size of Cover.....	7"x9"
Size of Frame, outside.....	10 $\frac{1}{2}$ "x12 $\frac{1}{2}$ "
Depth of Frame.....	1 $\frac{3}{4}$ "
Size of Clear Opening.....	6"x8"
Weight of Cover.....	.4 lbs.
Weight of Frame.....	10 lbs.



BANNER IRON WORKS

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**SQUARE FRAME WITH  
13" x 13" SOLID COVER**

**No. 4853**

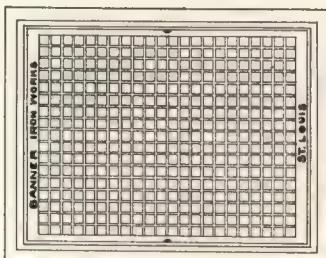


Size of Cover.....	13" x 13"
Size of Frame, outside.....	18" x 18"
Height of Frame.....	4 1/2"
Clear Opening.....	12" x 12"
Weight of Cover.....	33 lbs.
Weight of Frame.....	54 lbs.

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**RECTANGULAR MANHOLE FRAME  
WITH 30" x 24" SOLID COVER**

**No. 4772**



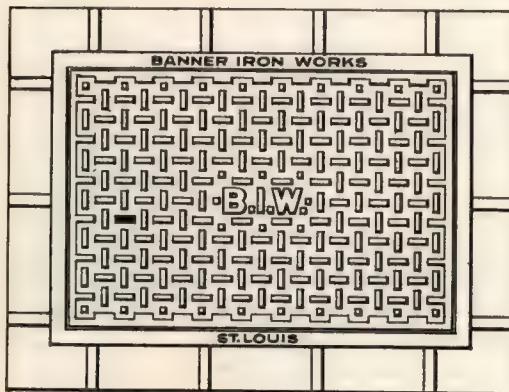
Size of Cover.....	30" x 24"
Size of Frame, outside.....	33" x 27"
Depth of Frame.....	6"
Clear Opening.....	28" x 22"
Weight of Cover.....	110 lbs.
Weight of Frame.....	128 lbs.

**MANHOLE FRAME WITH  
BALANCED COVER**

No. 4975 as shown below and No. 4985 as shown on opposite page 33, are used as the Standard Cover for Gas Main and Wire Conduit Pits, and Manholes for Water and Sewer Systems, requiring ready accessibility. They are particularly adapted for use in streets subject to heavy traffic.

The Covers are readily opened by one man by means of a key, which releases the gravity catch and then forms a handle. When open, the Cover is held in a vertical position by a counterweight which is adjusted on a shaft with lever arms. Length of shaft is made to conform to width of pit.

**No. 4975 (small size)**



Size of Cover  
 $21\frac{1}{2}'' \times 31\frac{1}{2}''$

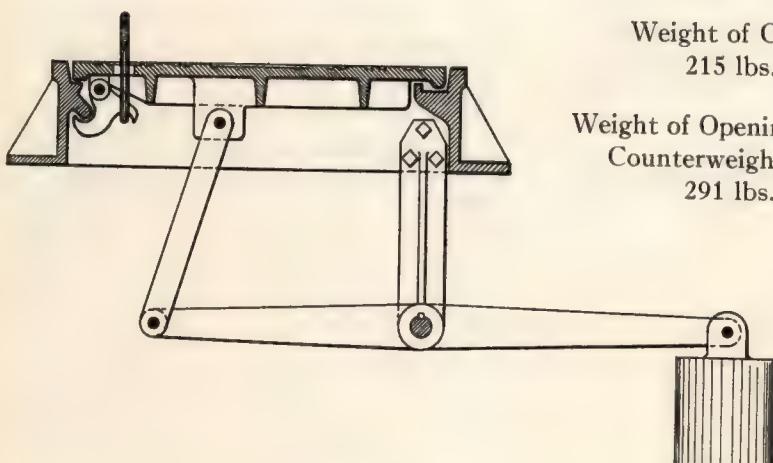
Size of Frame, outside  
 $29\frac{1}{2}'' \times 39\frac{1}{2}''$

Height of Frame  
8"

Weight of Frame  
395 lbs.

Weight of Cover  
215 lbs.

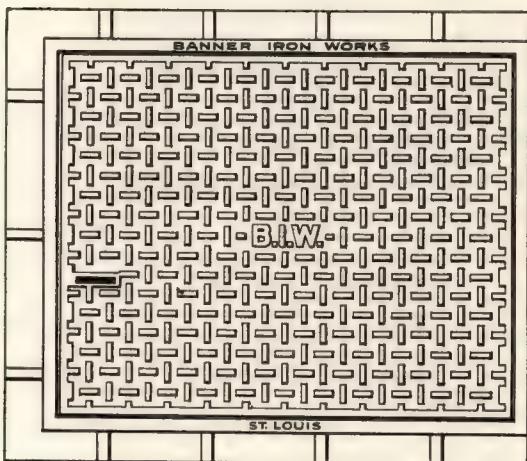
Weight of Opening Device  
Counterweight, Etc.  
291 lbs.



BANNER IRON WORKS

MANHOLE FRAME WITH  
BALANCED COVER

No. 4985 (large size)



Size of Cover  
27  $\frac{3}{4}$ " x 34  $\frac{1}{4}$ "

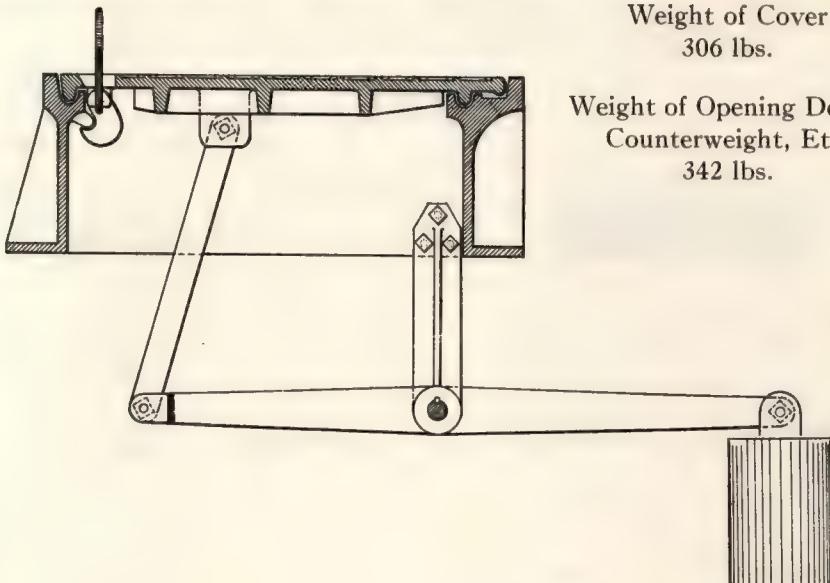
Size of Frame, outside  
35  $\frac{1}{2}$ " x 39  $\frac{1}{2}$ "

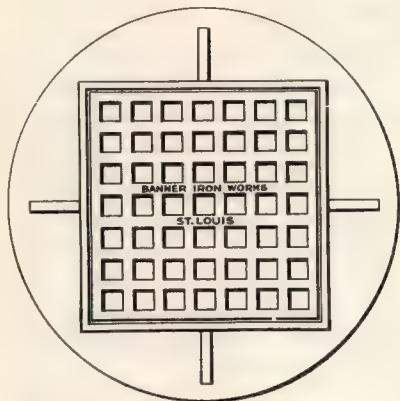
Height of Frame  
14"

Weight of Frame  
708 lbs.

Weight of Cover  
306 lbs.

Weight of Opening Device  
Counterweight, Etc.  
342 lbs.





**CITY OF ST. LOUIS  
STANDARD SEWER INLET  
FRAME WITH GRATED  
COVER**

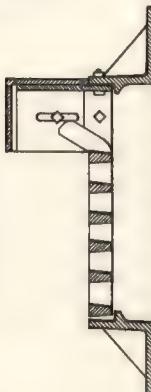
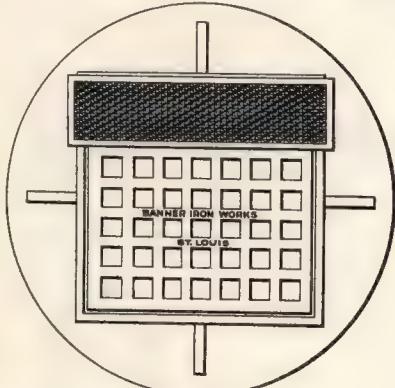
**Type "D" Grate**

**No. 4820**

Size of Grate.....	22" x 22"
Diameter of Frame, outside .....	38"
Clear Opening.....	20 1/2" x 20 1/2"
Height of Frame.....	6"
Weight of Grate.....	156 lbs.
Weight of Frame.....	211 lbs.

**CITY OF ST. LOUIS STANDARD SEWER INLET FRAME AND  
GRATED COVER WITH ADJUSTABLE CURB**

**No. 4830**



**Type "A" Grate**

**Note** — Can be furnished with full flange, as shown, or with back flange cut off.

**Weight of Grate,  
131 lbs.**

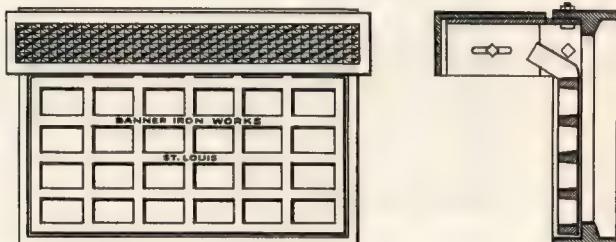
**Weight of Frame  
and Curb,  
293 lbs.**

Size of Grate.....	22" x 16"
Diameter of Frame, outside.....	38"
Height of Frame.....	6"
Size of Curb.....	6" wide, 8" high above frame, 25 3/4" long

BANNER IRON WORKS

RECTANGULAR SEWER INLET FRAME AND GRATED COVER  
WITH ADJUSTABLE CURB

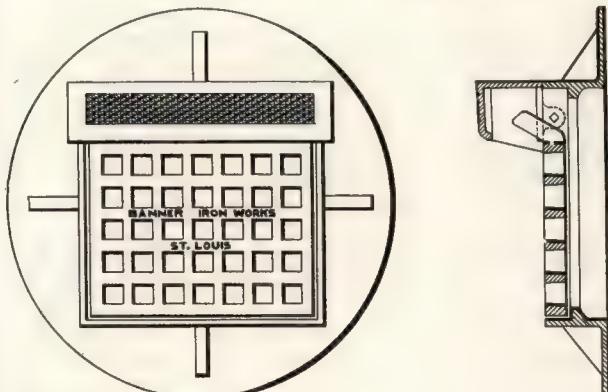
No. 4831



Size of Grate.....	24½" x 12"
Size of Frame, outside.....	26" x 18"
Height of Frame.....	5"
Size of Curb.....	5" wide, 8" high above frame, 28" long
Clear Opening.....	14" x 22"
Weight of Grate.....	56 lbs.
Weight of Frame and Curb.....	187 lbs.

SEWER INLET FRAME AND GRATED COVER  
WITH ONE-PIECE CURB

No. 4841



Note — Can be furnished with full flange, as shown, or with back flange cut off.

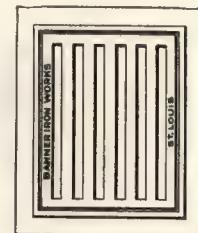
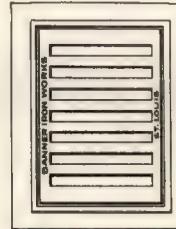
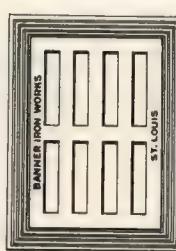
Weight of Grate,  
131 lbs.

Weight of Frame  
and Curb,  
260 lbs.

Size of Grate.....	22" x 16"
Diameter of Frame, outside.....	38"
Height of Frame.....	6"
Size of Curb.....	7" wide, 6" high above frame, 25" long

BANNER IRON WORKS

RECTANGULAR FRAMES WITH FLAT AND CONCAVE GRATES



No. 4720

Size of Grate.....	14"x20"
Size of Frame, outside	18"x24"
Height of Frame.....	2 $\frac{3}{4}$ "
Clear Opening.....	12 $\frac{1}{2}$ "x18 $\frac{1}{2}$ "
Weight of Grate.....	42 lbs.
Weight of Frame.....	62 lbs.

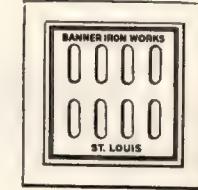
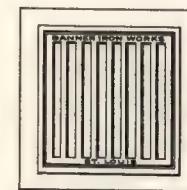
No. 4854

14"x18"
19"x23"
4 $\frac{1}{2}$ "
12"x16"
40 lbs.

No. 4855

14"x18"
19"x23"
4 $\frac{1}{2}$ "
12"x16"
45 lbs.

SQUARE FRAMES WITH FLAT AND CONCAVE  
GRATES 13"x13"



No. 4850

Size of Grate.....	13"x13"
Size of Frame, outside	18"x18"
Height of Frame.....	4 $\frac{1}{2}$ "
Clear Opening.....	12"x12"
Weight of Grate.....	27 lbs.
Weight of Frame.....	54 lbs.

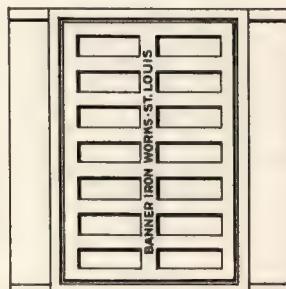
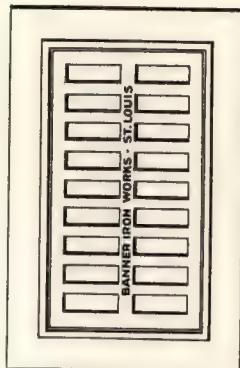
No. 4851

13"x13"
18"x18"
4 $\frac{1}{2}$ "
12"x12"
38 lbs.

No. 4852

13"x13"
18"x18"
4 $\frac{1}{2}$ "
12"x12"
54 lbs.

RECTANGULAR FRAMES WITH  
CONCAVE GRATES

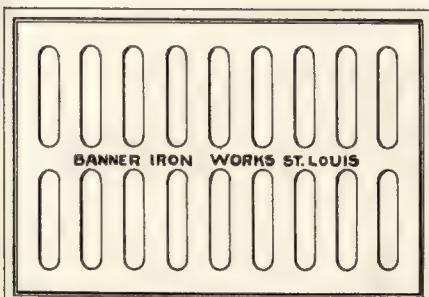


No. 4860



No. 4861

Style No.	Size of Grate (Inches)	Size of Frame Outside (Inches)	Clear Opening (Inches)	Height of Frame (Inches)	Weight of Grate (Pounds)	Weight of Frame (Pounds)
4860	14x26	23x34½	12½x24½	6	86	132
4861	14x20	21½x22	12¾x18¾	6	70	128



RECTANGULAR FRAME  
WITH GRATED 24"x36"  
COVER

No. 4569

Size of Grate..... 24"x36"  
Size of Frame, over all.... 26"x38"  
Size of Clear Opening..... 21"x33"  
Height of Frame..... 2"  
Weight of Grate..... 252 lbs.  
Weight of Frame..... 107 lbs.

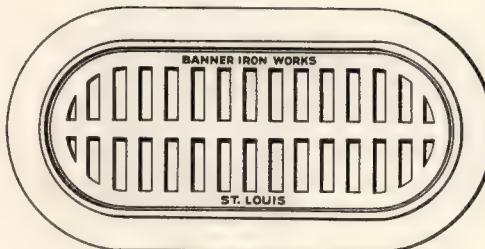


BANNER IRON WORKS

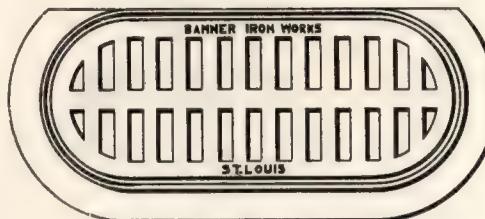
OVAL GUTTER INLET FRAMES WITH  
CONCAVE GRATES

No. 4870

STYLE  
"A"  
Full  
Flange



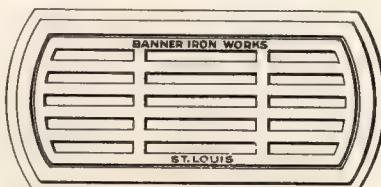
STYLE  
"B"  
One  
Flange  
Cut Off



Style	Size of Grate (Inches)	Size of Frame (Inches)	Height of Frame (Inches)	Weight of Grate (Pounds)	Weight of Frame (Pounds)
A	15x39	47x23	7	114	175
B	15x39	47x19 7/8	7	114	154

SEGMENT GUTTER INLET FRAME  
WITH CONCAVE GRATE

No. 4871



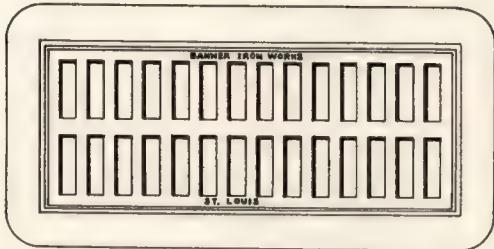
Size of Grate...12"x31 1/2"  
Size of Frame,  
outside.....17"x36 1/2"  
Height of Frame.....2 3/4"  
Weight of Grate...50 lbs.  
Weight of Frame..110 lbs.

BANNER IRON WORKS

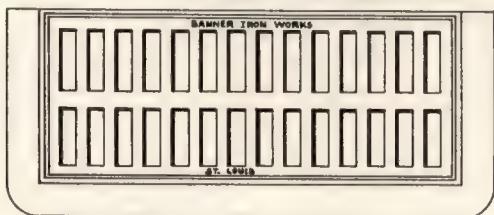
**GUTTER INLET FRAMES WITH RECTANGULAR CONCAVE GRATES**

**No. 4872**

**STYLE  
"A"  
Full  
Flange**



**STYLE  
"B"  
Back  
Flange  
Omitted**

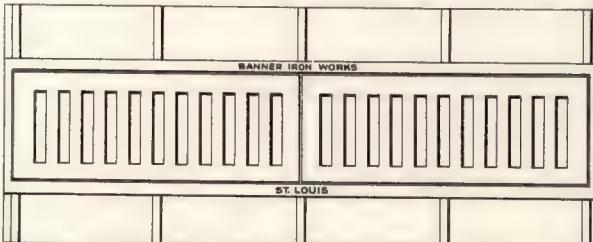


Style	Size of Grate (Inches)	Size of Frame (Inches)	Height of Frame (Inches)	Weight of Grate (Pounds)	Weight of Frame (Pounds)
A	15x39	47x23	7	138	202
B	15x39	47x19 $\frac{1}{8}$	7	138	183

**RECTANGULAR FRAME WITH GRATED COVER**  
**For Railway Track Drains**

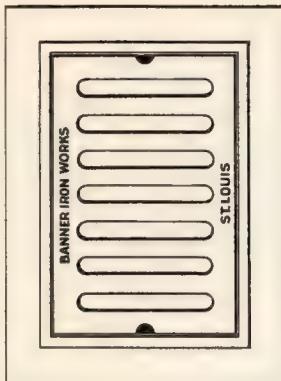
**No. 4950**

**Grate In Two Sections**



Size of Double Grates, over all.....	9"x48"
Size of Frame, outside.....	20"x50"
Height of Frame.....	7 $\frac{1}{8}$ "
Two Clear Openings, each.....	8"x23 $\frac{1}{2}$ "
Weight of Double Grates.....	103 lbs.
Weight of Frame.....	353 lbs.

**GUTTER INLET FRAME WITH GRATED COVER**  
(Made in two sizes)



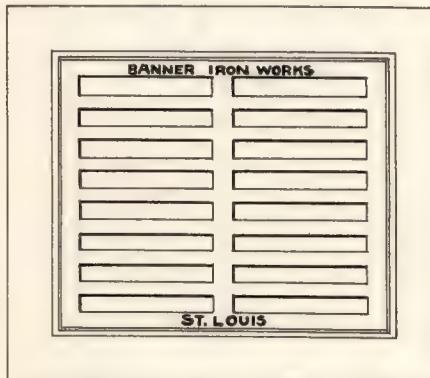
**No. 4862**

**Style A**  $15\frac{1}{2}'' \times 24''$ . Grate has 7  
Slots  $1\frac{1}{2}'' \times 10\frac{3}{4}''$ .

**Style B**  $15\frac{1}{2}'' \times 36''$ . Grate has 11  
Slots  $1\frac{1}{2}'' \times 10\frac{3}{4}''$ .

	<b>Style A</b>	<b>Style B</b>
Size of Grate.....	$15\frac{1}{2}'' \times 24''$	$15\frac{1}{2}'' \times 36''$
Size of Frame, outside.....	$24'' \times 32''$	$24'' \times 44\frac{1}{2}''$
Height of Frame.....	5"	5"
Clear Opening.....	$14'' \times 22\frac{1}{2}''$	$14'' \times 36\frac{1}{2}''$
Weight of Grate.....	105 lbs.	172 lbs.
Weight of Frame.....	210 lbs.	256 lbs.

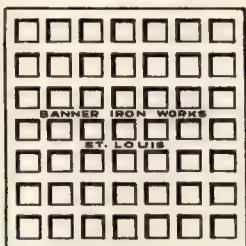
**RECTANGULAR FRAME WITH  $20\frac{3}{4}'' \times 25\frac{1}{2}''$  GRATED COVER**



**No. 4865**

Size of Grates.....	$20\frac{3}{4}'' \times 25\frac{1}{2}''$	No. of Slots.....	16
Size of Frame, outside.....	$30'' \times 35''$	Size of Slots.....	$1\frac{1}{2}'' \times 11\frac{1}{8}''$
Height of Frame.....	$7\frac{3}{4}''$	Weight of Grate.....	81 lbs.
Clear Opening.....	$20'' \times 25''$	Weight of Frame.....	188 lbs.

## BANNER IRON WORKS



### SQUARE GRATES 1" THICK

No. 4571

Size of Grate (Inches)	Thickness of Grate (Inches)	Weight Each (Pounds)
8x 8	1	9
10x10	1	14
12x12	1	20
20x20	1	53

### RECTANGULAR GRATE 14"x21"

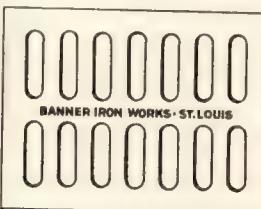


No. 4572

Size of Grate..... 14"x21"  
Thickness..... 1"  
Weight..... 52 lbs.

Can Also Be Furnished in 1½" and 2" Thickness

### CITY OF EAST ST. LOUIS, ILL., STANDARD INLET GRATE 18"x24"



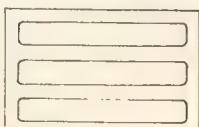
No. 4863

Size..... 18"x24"  
Thickness of Metal..... 1¼"  
Depth of Rib, over all..... 3"  
Weight..... 120 lbs.

### RECTANGULAR INLET GRATE

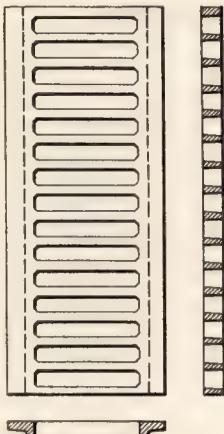
No. 4864

Used in Parks and Cemeteries when leaves are a problem



Size of Grate..... 14"x22"  
Thickness of Grate..... 1½"  
No. of Slots..... 3  
Size of Slots..... 19"x2½"  
Weight of Grate..... 68 lbs.

## BANNER IRON WORKS



### RECTANGULAR DRAIN GRATES

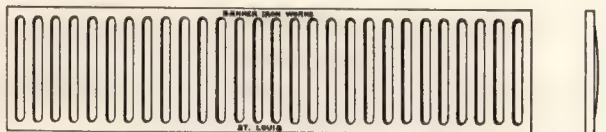
No. 4574

Size of Grate (Inches)	Thickness (Inches)	No. of Slots	Weight Pounds
17x21	2	8	102
17x41	2	16	185
17x46	2	18	211

Excellent to take storm water at foot of sloping drive leading to garage or similar opening.

### RECTANGULAR DRAIN GRATE

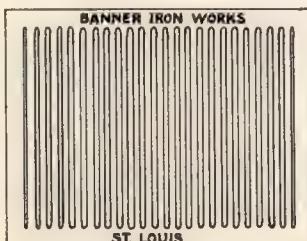
No. 4575



Size of Grate.....	14" x 60"
Thickness of Grate.....	1" at edges, 1 3/8" at center
No. of Slots.....	28
Size of Slots.....	1.03" x 12"
Weight of Grate.....	155 lbs.

### RECTANGULAR DRAIN GRATE

No. 4576

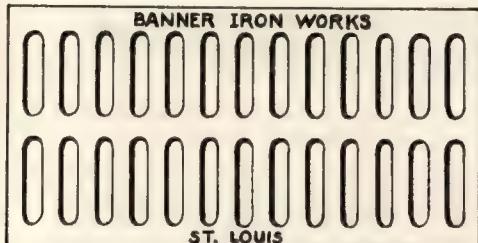


Size of Grate.....	20" x 26"
Thickness of Grate.....	1 3/4"
No. of Slots.....	24
Size of Slots.....	3/8" x 17"
Weight of Grate.....	124 lbs.

## BANNER IRON WORKS

### CITY OF ST. LOUIS STANDARD GRATE

No. 4848 (Type A)



Size of Grate  
15"x30"

Thickness of Grate  
2½"

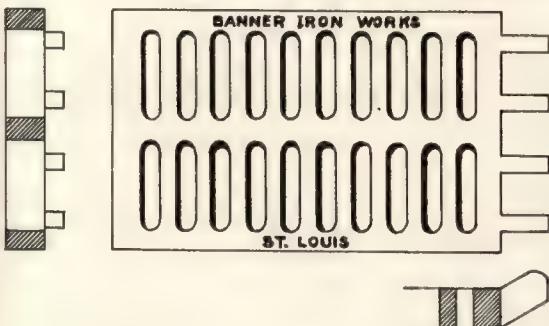
26 Slots  
1½" x 5½"

Weight of Grate  
184 lbs.

Welded steel Angle Frames can be furnished for this grate. Details on request.

### CITY OF ST. LOUIS STANDARD GRATE

No. 4849 (Type B)

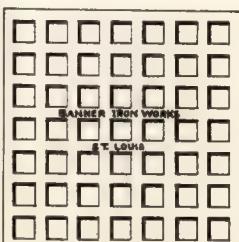


Size of Grate  
15"x27½"

Thickness of Grate  
2½"

20 Slots  
1½" x 5½"

Weight of Grate  
163 lbs.



Additional rows of 2" □ holes can be added to either length or width or both, when extra large grates are required.



### HIGHWAY GRATE

No. 4820 (Type D)

Size of Grate..... 22"x22"

Thickness of Grate..... 2¼"

No. of Openings..... 49

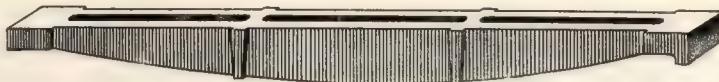
Size of Openings..... 2"x2"

Weight of Grate..... 156 lbs.

BANNER IRON WORKS

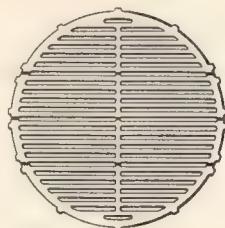
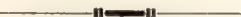
CAST IRON GRATE BARS

No. 5000



All Bars are Double, 3 inches wide,  $\frac{3}{4}$ -inch metal,  $\frac{3}{4}$ -inch air space  
Bars under 4' 0" long have one separator in center

Length	Depth in Center (Inches)	Weight Each (Pounds)	Length	Depth in Center (Inches)	Weight Each (Pounds)
2' 6"	2 $\frac{1}{2}$	28	4' 3"	3 $\frac{3}{4}$	60
3' 0"	2 $\frac{3}{4}$	30	4' 6"	4	65
3' 3"	2 $\frac{3}{4}$	31	5' 0"	4 $\frac{1}{4}$	76
3' 6"	3	36	5' 6"	4 $\frac{1}{2}$	82
3' 9"	3 $\frac{1}{4}$	42	6' 0"	5	94
4' 0"	3 $\frac{1}{2}$	54	6' 6"	5	121



ROUND CAST IRON GRATES  
FOR BOILERS

No. 5001

Diameter (Inches)	No. of Sections	Weight Each (Pounds)	Diameter (Inches)	No. of Sections	Weight Each (Pounds)
24	3	98	36	4	253
25	3	99	37	4	255
26	3	120	38	4	310
27	3	122	39	4	315
28	3	160	40	4	339
29	3	163	41	4	342
30	3	190	42	4	400
31	3	194	43	4	402
32	3	201	44	4	441
33	3	205	45	4	445
34	4	225	46	4	465
35	4	231	47	4	490

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BANNER IRON WORKS

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In this Catalog we have shown Standard designs for which we have patterns. If you do not find a size which can be adapted to your conditions, send us a sketch or drawing and we will be glad to quote on your special needs. We operate a well-equipped pattern shop, as well as a machine shop in connection with our Gray Iron Foundry so are well prepared to handle all of your Foundry requirements.

We are also fabricators of Structural Steel and Miscellaneous Iron Work for buildings and industries, and carry in stock I Beams, Channels, Angles, Bars and Plates. When you are in the market for this class of material we solicit your inquiries.

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## *Industrial Castings*

- (A) GRAY IRON
- (B) HIGH TENSILE STRENGTH
- (C) WEAR AND ABRASION RESISTING
- (D) HEAT RESISTING
- (E) PRESSURE TIGHT

We also carry in stock a quantity of billets for immediate shipment in sizes from  $\frac{3}{4}$ "  $\phi$  to 8"  $\phi$  in 13" lengths. These billets have a tensile strength of 40,000 lbs. p.s.i. minimum.

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Phone or write

**BANNER IRON WORKS**  
1920 S. Kingshighway Blvd.  
ST. LOUIS 10, MO.

